Angle-resolved Photoelectron Spectroscopy of Graphene Oxide-Based Aerosols by VUV Synchrotron Radiation

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Abstract

DESIRS beamline of the SOLEIL synchrotron facility is dedicated to gas phase high resolution spectroscopy, as well as polarization-dependent photodynamics studies, in the 5 – 40 eV energy range. More specifically, the SAPHIRS endstation of DESIRS is equipped with the DELICIOUSIII electron/ion coincidence spectrometer [1], composed of a velocity map imaging and a 3D momentum imaging spectrometer on the electron and the ion side, respectively. This experimental set-up, coupled with a VUV tunable photon energy synchrotron source, allows for advanced photoelectron spectroscopy studies of gaseous, liquid and solid samples, including nanoparticles suspended in a carrier gas and brought into the interaction region via a dedicated aerodynamic lens [2].

In this contribution we will present the results of the angle-resolved photoelectron spectroscopy of aerosol particles produced from polar dispersions of graphene oxide and reduced graphene oxide. In addition, the influence of the presence of the graphene derivatives on the photoemission of biomolecular aerosols will be demonstrated.

References

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